Board of Economic Warfare
Plants collected in Colombia by W. C. Steere
Reported by U. S. National Museum, Feb. 1943
Det. E. P. Killip unless otherwise noted; * indicates
verification of Steere's identification

7002. Borreria laevis (Lam.) Griseb. (Det. Standley)
7003. Palicourea fastigiata H.B.K. (" ")
7004. Amaioua guianensis Aubl. (" Morton)
7005. Schizocalyx hirsutus Standl.
7006. Psychotria involucrata Sw.
7007. Sabicea colombiana Wernh.
7008. Coussarea steerei Standl. (type)
7009. Ladenbergia magnifolia (R. & P.) Kl.
7010. Schizocalyx hirsutus Standl.
7011. Psychotria axillaris Willd.
7012. Cephaelis tomentosa (Aubl.) Vahl.
7013. Ryania pyrifera (L. C. Rich.) Uittien & Sleumer
7014. Psychotria rufescens H. & B. (Det. Morton)
7015. Palicourea guianensis Aubl.
7016. ~~Gentianeae~~ Lehmanniella splendens (Hook) Ewan (det Ewan)
7017. Remijia pedunculata (Karst.) Flueck (Det. Morton)
7018. Palicourea chlorantha Wernh. (Det. Standley)
7019. Quiina macrostachys Tul.
7020. Remijia pedunculata (Karst.) Flueck.
7022. Psychotria or Palicourea
7023. Palicourea semirasa Standl. (Det. Morton)
7024. Remijia pedunculata (Karst.) Flueck.
7025. Psychotria santaremica Muell. Arg. (Det. Morton)
7026. Warscewiczia coccinea (Vahl) Klotzsch
7027. Borreria latifolia (Aubl.) K. Sch. (Det. Morton)
7028. Coccocypselum lanceolatum (R. & P.) Pers. (form)
7029. Sabicea colombiana Wernh.
7030. Remijia pedunculata (Karst.) Flueck
7031. Sickingia cordifolia Hook. f.? (Det. Morton)
7032. Cinchona officinalis L.
7033. Remijia purdieana Wedd. (" Standley)
7036. Isertia haenkeana DC.
7037. Palicourea rigida H.B.K. (" Morton)
7038. Coccocypselum hirsutum Bartl.
7039. Diodia rigida (Willd.) C. & S. (" Morton)
7040. Borreria ocymoides (Burm.) DC. (" ")
7041. " suaveolens Meyer (" ")
7042. Declieuxia fruticosa (Willd.) Kuntze
7043. Hamelia patens Jacq.
7044. Diodia rigida (Willd.) C. & S. (Det. Morton)
7045. Palicourea vaginata Benth. (" Standley)
7047. Borreria anthospermoides DC. (" Morton)
7048. Fuchsia killipii Johnst. (Det. Munz)
7049. Cinchona pubescens Vahl?
7050. Palicourea
7051. " aff. P. vagans Wernh.? (Det. Morton)

7052. Palicourea demissa Standl. (Det. Morton)
7053. Cinchona rosulenta Howard? (Det. Steere)
7054. " pubescens Vahl.
7057. Rub.
7058. Rub.
7059. Posoqueria latifolia (Rudge) R. & S.
7060. Remijia pedunculata (Karst.) Flueck.
7061. " " " "
7063. Cinchona henleana Karst.*
7064. " officinalis L. *
7066. " pubescens Vahl. *
7068. Schizocalyx bracteosus Wedd.
7069. Remijia pedunculata (Karst.) Flueck.
7070. " " " "
7072. Sabicea pearcei Wernh.
7073. Isertia hypoleuca Benth.
7074. Borreria
7075. Palicourea fendleri Standl.
7079. Joosia umbellifera Karst.*
7080. Neurolaena lobata (L.) R. Br.*
7081. Remijia pedunculata (Karst.) Flueck.
7082. Psychotria brachiata Sw.
7083. Bertiera guianensis Aubl.
7084. Cephaelis tomentosa (Aubl.) Vahl.
7085. Cinchona officinalis L.
7086.
7087. Relbunium hypocarpium (L.) Hemsl.
7088. Emmeorrhiza umbellata (Spreng.) Schum
7089. Psychotria n. sp.? (Det. Standley but not known to be described)
7090. Psychotria patens Sw. (Det. Standley)
7091. Aegiphila aculeifera Moldenke (Det. Moldenke)
7092. Psychotria siggersiana Standl.? (Det. Standley)
7093. Ladenbergia
7095. Beloperone bracteosa Mildbr. (Det. Leonard)

DATA FOR COLOMBIAN PLANTS (Steere's)

7002. Borreria
Herbaceous weed in pasture, El Playón, Santander. Dec. 4 1942.
Flowers white. 500 meters alt.

7003.
Undershrub in forest, reaching 1 m. " " 1000 meters alt. "

7004.
Tree reaching 10 m. " " 1000 meters alt. "

7005.
Slender tree, to 8 m. " " " " " "

7006.
Low shrub in forest, to 1 m. " " " " " "

7007.
Same

7008.
Tree, 8 m.; flowers white, odor of gardenias. same.

7009. Ladenbergia
Tree, 15 m., trunk diam. 25-30 cm. same.

7010.
Slender tree, 4 m. same.

7011.
Weak shrub, to 3 m.; flowers white, fruit blue. same.

7012. Cephaelis
Vinelike shrub in deep forest. same.

7013.
Small tree; fruit rusty-brown, globose, 3-4 cm. in diam. same.

7014.
Tall shrub. same.

7015.
Tall shrub, 4 m., very conspicuous yellow-orange flowers. same.

7016.
Scandent, slender shrub, 1-2 m.; La Victoria (Vetaña), Santander, 1200 meters alt., Dec. 5, 1942.

7017.
Understory in dense forest, 1400 meters alt.; trees reaching 10 m. same place as 7016.

7018.
Flowers beautiful pale blue, shrub to 5 m. La Luciana, same.

7019.
Small tree in dense forest. same.

7020. Ladenbergia pedunculata
Same data as 7017.

7022.
In old clearing; shrub to 4 m. ✠ mountain N.W. of Vetaña, 1000 meters alt., Dec. 6, 1942.

7023.
In dense wet forest, 1400 meters alt.; small shrub. same.

7024. Ladenbergia pedunculata
Small tree, 5-10 m. same.

7025.
Delicate undershrub to 1 m., high forest. same.

7026. Warscewiczia coccinea
Open mountain slope, 1000 m ; same. 5-10 m.

7027.
Weed; open hillside above Vetaña. same.

7028.
Wet shaded bank. Flowers blue fading to white. same.

7029.
Twining shrub; hillside above Vetaña. same.

7030.
Ladenbergia pedunculata
Small tree in summit forest, Cerro de Còrdoba, above Río Cáchira, Cordillera de la Lora, Norte de Santander, Dec. 10, '42.

7031.
Large tree. same.

7032. Cinchona officinalis
El Pensadero, on border between Norte de Sant. & Sant. large tree. Dec 10, 1942.

7033. Remijia Purdieana
Shrubby tree on sterile black acid shale, just aoutside village of Simití, Bolívar. Dec. 17, 1942. flowers white.

7036. east
Large shrub, 4-6 m. high. 20 km. w. of Barranca Bermeja, Santander Dec. 21, 1942. Hypanthium red, flowers yellow-orange.

7037.
Small shrub, to 1 m., stems & leaves very fleshy leaves pale-bordered; sterile mountainside west of Bucaramanga, Sant. Dec. 25 1942.

7038.
Exposed bank, same. Flowers & fruit blue.

7039.
Open hillside, 1500 m. alt. same. Flowers pink.

7040.
Same. Flowers white.

7041.
Same. Flowers white.

7042.
Same. Flowers white.

7043. Hamelia
Roadside 20 km. east of Bucaramanga, road to Matanza Sant. Dec. 26, 1942.

7044. Diodia
Pink fls., roadside 10 km. east of San Gil, Sant., road to Mogotes Dec. 27, 1942.

7045.
Clear purple flowers, forest at 7000 ft., 50 km. N. of Duitama, Sant. Dec. 28, 1942.

7046.
With preceding. Fruit blue.

7047.
Prostrate herb in thick mats, open roadside 10 km. NW. of Arcobuco, road to Barbosa, Sant., Dec. 29, 1942. 8550 ft. alt.

7048. Fuchsia
Clambering shrub to 4 m. With preceding.

7049.
Tree to 10 m. same.

7050.
Shrub with white flowers, to 4 m. same.

7051.
Flowers yellow-orange, shrub 2-3 m., same.

7052.
Flowers clear yellow, pedicels reddish; shrub to 4 m. same.

7053. Cinchona rosulenta Howard.
Low tree, often shrubby reaching 4-5 m., just south of Vélez, road to Barbosa Sant., alt. 6000 ft., Dec. 30, 1942.

7054. Cinchona pubescens Vahl.
Roadside fencepost sprouted to a tree 5 m. high, just North of Vélez road to Landázuri, Sant. 7500 ft. alt. Dec. 30, 1942. Flowers pink, odor of vanilla.

7055.
"Quinon" in summit forest, about 800 meters alt. Unbranched tree to 4 meters. Filo de la Victoria, 20 km. west of Landázuri, road to Puerto Berríos. Dec. 31, 1942. Sant.

7056.
Large shrub, 5-6 m., flowers beautiful pale blue, hypanthium purple. with preceding.

7057.
Slender tree, much shaded, to 10 m., 3 inches diam. same.

7058.
same.

7059.
Small tree, 4 m., at 500 meters alt. same.

7060.
same.

7061.
On steep mountainside above Río Horta, south slope of Río de Agua Chica, just west of Landázuri. Tree to 8 inches in diam., growing in pure stands in lower storey. 800 meters alt.

7063. Cinchona Henleyana Karst.
On steep mountainside, Filo Alto Grande de Hélida 22 km. NW. of Vélez, 2000 meters alt., Jan. 2, 1943. Tree to 7-8 m.

7064. Cinchona officinalis L.
Small, relict trees in pasture. same as preceding.

7066. Cinchona pubescens Vahl.
Roadside tree, 6 m. high, 22 km south of Barbosa, road to Chiquinquirá, Sant., Jan. 4, 1943.

7068.
Tree to 15 m., forested river bank2 km. S. of Villavicencio, Meta. Jan 11, 1943. 600 meters alt.

7069.
same.

7070.
same.

7071.
same.

7072.
Clambering vine with white flowers roadside 10 km. East of Villavicencio, Meta. Jan. 12, 1943.

7073. Tree
Tree to 10 meters, Buena Vista, above (west) Villavicencio, 1200 meters alt. Jan. 13, 1943.

7074.
In trail, forest south of Buena Vista, above Villavicencio, Meta. 1200 meters alt. Jan. 13, 1943.

7075.
Orange flowers. same.

7079. Joosia umbellifera Karst.
On steep mountainside above Quebrada Argentina near its junction with the Río Guatiquía, w. of Villavicencio, Meta. 700 m. alt. Jan. 14, 1943. Small tree, to 10 meters, flowers pure white.

7080. Neurolaena lobata.
Herb 6-12 feet high on abandoned clearing, cabecera del Río Acacías, Meta. 800 meters alt. 40 km. east of Villavicencio, Jan. 16, 1943.

7081.
Tree 6 m. high, at 1000 meters alt., same.

7082.
In wet forest, high shrub 4-5 m. high, 800 meters alt. same.

7083.
Shrub to 4 m., see preceding.

7084. Cephaelis
Shrub to 2 m. ♀ same.

7085. Cinchona officinalis or pitayensis Wedd.
Mountainside above El Calvario, Meta 2250 meters alt. Jan. 20, 1943. Shrubby tree, once cut.

7086.
On moist bank. same. Nertera depressa

7087. Relbunium
same.

7088. same.

7089.
Shrub to 2 meters. flowers white, fruit sky-blue, to 1/4 inch., cloud forest at 2500 meters alt. same.

7090.
Shrub to 3-4 m., flowers white, fruit bright orange, suddenly turning black. same.

7091.
Shrub 4 m. high, flowers pale yellow. same

7092.
Shrub to 4 m., same.

7093. Ladenbergia
Flowers ivory, 2300 meters alt. same.

7095. Roadside N. of Pescadero, Río Sogamoso, s. of Bucaramanga, Sant., Dec. 2, 1942.

C O P Y

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

Washington, D. C.

February 15, 1946

Mr. Alfred B. Carr
Chief, Cinchona Section
General Commodities Division
U. S. Commercial Company
Washington 25, D. C.

Dear Mr. Carr:

In compliance with your request of February 6, SU-986-ABC, there is enclosed a copy of the field notes supplied by Dr. Steere in transmitting his collection. In accordance with our phone conversation I have had copied the data only for Cinchona and its near relatives.

Yours very truly,

(Signed)

E. P. Killip
Associate Curator
Division of Plants

Enclosure

UNIVERSITY OF MICHIGAN

SENT FOR INFORMATION OF

Dr. Andrew Archer

June 9, 1947

Dr. E. P. Killip, Curator
Division of Plants
Smithsonian Institution
United States National Museum
Washington 25, D. C.

Dear Killip:

COPY

Thank you for the further information concerning some of my Colombian Rubiaceae and for sending Archer the field data so that he could label the specimens.

The data which you lack are as follows:

7001. (melastome) Bush in forest east of El Playon, Santander, Colombia. 600-650 m elevation. December 4, 1942.
7065. Cinchona officinalis. Stumps sprout to show red color of leaves. On steep mountain sides, Filo Alto Grande de Helida, 22 km, NW of Velez, 6200 ft. altitude. Jan. 2, 1943.
7071. Remijia pedunculata. Tree reaching 500 m, forested river bank, 2 km south of Villavicencoo, Meta, January 11, 1943.
7094. Cinchona officinalis. "Quina tuna." 7000 ft. altitude, mountain above El Calvario, Meta, January 20, 1943. Shrubby tree.
7097. Cinchona pubescens. Rio Frasadas above village of Frasadas, some 8 km. Small tree. March 19, 1943. 6500 ft. altitude. Dept. Valle.
7098. Cinchona pubescens. Rio Frasadas above village of Frasadas, about 6 km above Frasadas. 6300 ft. altitude.
7099. Macrocnemum. Shrubby, to 4 m. Obviously second growth. Large stipules, bark not bitter. With 7097. March 19, 1943.
7100. Macrocnemum. Tree 15 m high, same species as 7099. In pasture across from village of Frasadas. Flowers wine colored, deep red, purple. March 19, 1943. river
7102. Cinchona pitoyensis. Steep hillside above Lopez, above Tacueyo, 8500-9000 ft. altitude. Tree to 15-20 m. March 25, 1943.

UNIVERSITY OF MICHIGAN

SENT FOR INFORMATION OF

7103. Cinchona pubescens. Called "Requeson". Common in village of Tacueyo, above Caloto, Rio Palo. March 25, 1943.
7104. Cinchona pubescens. Summit of Cordilla Oriental, 6700 ft. above Las Brisas, Valle, on frontier of Choco. April 6, 1943.
7105. Ladenbergia macropra. Steep mountain side, virgin forest, 8500 to 9000 ft., headwaters of Rio Negro above Corinto, "Las Playas." Flowers white, strong orange blossom odor. Corde Central, Cauca. April 12, 1943.
7106. Ladenbergia. Headwaters of Rio Paila. Carrigal Corinto, Cauca. Cord. Central. Large trees. April 14, 1943.

COPY

I am glad that these specimens may be handled with a minimum of red tape, since it would be difficult to credit them to the defunct Board of Economic Warfare.

Sincerely yours,

wcs

William C. Steere

WCS:jdk
cc: Dr. Archer

RECEIVED
JUN 12 1947
U. S. DEPARTMENT OF AGRICULTURE
PLANT EXPLORATION AND INTRODUCTION
ANSWERED

ECUADOR CINCHONA MISSION DATA

Collector: William C. Steere

Cinchonaea collected in Ecuador by William C. Steere

Note: The genera Manettia and Hillia, consisting of vines, are not included. An asterisk indicates that the number is not represented in the U.S. National Herbarium set, Nos. 8000-8224 were collected by Steere, now. 8825-end by Steere and Camp.

Cordillera Oriental; Province Napo-Pastaza

8004. Ladenbergia macrocarpa (Vahl) Kl. Large tree. Common in valley of Rio Chingual, near Macarenas, 8500-9000 ft. alt. Harvested for Cinchona by error. July 30, 1943.

8008. Macrocnemum cf. sprucei Rusby. Sterile. Tree to 10 meters high. Slopes above La Fama, Rio Chingual, 7000 ft. alt. Aug. 2, 1943

8013. Cinchona officinalis L. Tree to 10 m. high. Dense, wet forest above Rio Las Ollas, near Rio Chingual, 6250 ft. alt. Aug. 3, 1943.

* 8014. Cinchona pubescens Vahl. In clearing at Cesario, Rio Chingual. Tree to 10 meters; alt. 6250 ft. Aug. 3, 1943

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8018. Joosia pulcherrima Steere (type) Tree 10 m. high in small groups in wet mossy forest. On steep bank above Rio Garrapatera, above La Bonita, at 7000 ft. alt. Aug. 6, 1943

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8026. Joosia pulcherrima Steere Tree 10 m. high, with fruit. At first tambo above La Fama, 7200 ft. alt. Aug. 10, 1943

Cordillera Occidental; Province Carchi

* 8043. Cinchona pitayensis Wedd. On steep slope, 35°, headwaters of Rio Plata, W. slope Volcan de Chiles, 9770 ft. alt.; tree 10 meters high. Aug. 22, 1943

8048. Ladenbergia. Tree to 20 m. high, much more pubescent than usual. Tambo Encanto, between Tufino and Maldonado, 8700 ft. alt. Aug. 22, 1943

8053. Cinchona pubscens Vahl Tambo Bella Vista, west slope of Volcan de Chiles, 8400 ft. alt. Aug. 23, 1943

8059. Ladenbergia. Tree to 15-20 m. high; twigs hollow. Alt. 6780 ft., below band of Cinchona pubescens, 5 km. east of Maldonado. Aug. 23, 1943

8062. Cinchona. Corolla pink; lvs. smooth, scarlet when old, reflexed on the margin at base. Not uncommon between 4000 and 5500 ft. alt., but well below range of Cinchona pubescens (6500-8000 ft.) and separated by a belt of Ladenbergia (no. 8059). On river terrace just east of Maldonado, 5445 ft. Aug. 25, 1943

(Ecuadorian Cinchona coll. by W. C. Steere)

Cordillera Occidental, Province Cotopaxi

* 8080. Cinchona pubescens Vahl Tree 25 m. high, 1 m. diameter, 5500 ft. alt. under exploitation at Hac. Nanalo, Macuchi Mines region, Sept. 8, 1943

Cordillera Occidental; Province Carchi

8097. Cinchona pitayensis Wedd. Tree 12 m. high, 25 cm. in diam. Foot of Piedra Centella, Rio La Plata, west slope of Volcan de Chiles, 9700 ft. alt. Oct. 10, 1943

Cordillera Oriental, Province Carchi

8108. Ladenbergia macrocarpa (Vahl) Kl. Below El Pun, toward Rio Chingual, 9000 ft. alt. Oct. 16, 1943

8125. Cinchona pitayensis Wedd. Sprout. Below Tambo Bretana, above Rio Bella Vista, 9000 ft. alt. Oct. 22, 1943

8129. Joosia pulcherrima Steere Tree to 10 meters (common) Rio Bella Vista on steep slopes. 8000 ft. Oct. 22, 1943

8134. Cinchona officinalis L. Tree to 10 m. high, trunk 10 cm. in diam. on nearly vertical cuesta above Rio Cofanes below San Antonio, 7250 ft. alt. Oct. 23, 1943

* 8153. Cinchona pitayensis Wedd. Stump sprout 4 meters high, west side of Cordillera Oriental across central valley from San Gabiel, 9500 ft. alt. Oct. 27, 1943

Cordillera Occidental, Province Pichincha

* 8168. Cinchona pubescens Vahl Roadside at about km. 45, Quito-Santo Domingo road, Nov. 9, 1943

Cordillera Oriental, Province of Carchi

* 8179. Cinchona officinalis L. Loma de Oso, Rio Siete Veces, near Rio Chingual, Nov. 7, 1943

Cordillera Occidental, Province Imbabura

* 8191. Cinchona pitayensis Wedd. Tree to 4 meters, 9500 ft. alt., Fila de Moinala, above Rio Asabi, 9400 ft. Dec. 3, 1943

8195. Cinchona pubescens Vahl Stump sprout, already in tree form, 3 meters high, said to be 1 year old. Village of Buenos Aires, 7450 ft. alt. Dec. 14, 1943

8201. Cinchona pitayensis Wedd. Small tree to 4 m. high. Headwaters of Rio Rumichaca, old road between Buenos Aires and La Cocha, 9500 ft. alt. Dec. 15, 1943

Province Oriente: Vicinity of El Topo, Rio Pastaza, Parroquia Mera.

8225. Cinchona pubescens Vahl Tree 6 m. high; fls. rose-colored. Rio Estancias at junction with Rio Pastaza. May 2-9, 1944 Alt. 4000 ft.

8226. Cinchona officinalis L. Tree 7 m. high (had been felled a week, therefore branches geotropic); fls. purplish. Hac. La Gloria, above El Topo. alt. 5500 ft. May 2-9, 1944.

(Ecuadorian Cinchona coll. by Steere and Camp)

8238. Cinchona officinalis L. Tree 10 meters; limb roseate-purple, tube paler; odor of heliotrope, not vanilla as in most Cinchonas. Above Rio Encanto near junction with Rio Pastaza. Alt. 4700 ft. May 2-9,1944

Province Oriente: El Mirador, Sierra de Leon, Valley of Rio Pastaza below Banos

8270. Cinchona pubescens Vahl? Tree, 7 meters; intermediate between C. pubescens and C. officinalis; lvs. firm, unusually thick, pubescent stipules of C. officinalis. Alt. 6500 feet. May 10, 11, 1944

8271. Cinchona officinalis L. Narrow-leaved variety found on Rio Chingual and Rio Cofanes, not at all the same harvested at lower altitutes in the valley of the Pastaza. Petioles red; leaves rather thick and recurved on margin. Alt. 7000 ft. May 10, 11, 1944

Province Oriente: Vicinity of Puyo, Parroquia Puyo

8299. Ladenbergia magnifolia (R. & P.) Klotzsch Roadside just above Puyo; retonos 3-4 meters. Alt. 3000 feet. May 12, 1944

Province of Oriente: Flood plain of Rio Pastaza, south of Shell-Mera, Parroquia Mera.

8312. Cinchona officinalis L. Sterile seedling in deep wet forest, 1.5 meters. Alt. 3500 ft. May 13, 1944

Dups copies
partial list
of steer
Freed data

DETERMINED BY ROBERT F. MARTIN,
BUREAU OF PLANT INDUSTRY

Form BEW 75

BOARD OF ECONOMIC WARFARE

Date 2/18

Referred for action checked to

Dr. J. K. Forberg

☐ Approval	☑ Note and file
☐ Attention	☐ Previous correspondence
☐ Comment	☐ Recommendation
☐ Consideration	☐ Record
☐ Correction	☐ RUSH
☐ Filing	☐ Reply for signature of
☐ Initials	
☐ Memorandum	☐ See me
☐ Note and forward	☐ Signature
☐ Note and return	☐ To be rewritten

REMARKS:

Alfred B Carr

(Initials of sender)

Use reverse side if necessary

GPO 16—25317-2

C O P Y

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

Washington, D. C.

February 15, 1946

Mr. Alfred B. Carr
Chief, Cinchona Section
General Commodities Division
U. S. Commercial Company
Washington 25, D. C.

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Associate Curator
Division of Plants

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Province of Oriente: Flood plain of Rio Pastaza, south of Shell-Mera, Parroquia Mera.

8312. Cinchona officinalis L. Sterile seedling in deep wet forest, 1.5 meters. Alt. 3500 ft. May 13, 1944

COPY

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

Washington, D. C.

February 15, 1946

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Chief, Cinchona Section
General Commodities Division
U. S. Commercial Company
Washington 25, D. C.

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Yours very truly,

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Associate Curator
Division of Plants

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Cinchonaea collected in Ecuador by William C. Steere

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8053. Cinchona pubscens Vahl Tambo Bella Vista, west slope of Volcan de Chiles, 8400 ft. alt. Aug. 23, 1943

8059. Ladenbergia. Tree to 15-20 m. high; twigs hollow. Alt. 6780 ft., below band of Cinchona pubescens, 5 km. east of Maldonado. Aug. 23, 1943

8062. Cinchona. Corolla pink; lvs. smooth, scarlet when old, reflexed on the margin at base. Not uncommon between 4000 and 5500 ft. alt., but well below range of Cinchona pubescens (6500-8000 ft.) and separated by a belt of Ladenbergia (no. 8059). On river terrace just east of Maldonado, 5445 ft. Aug. 25, 1943

(Ecuadorian Cinchona coll. by W. C. Steere)

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C O P Y

SMITHSONIAN INSTITUTION

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